South • Australian • Apple • Users • Club

APPLESAUCE

Ruins of Birmingham Cottage
Robe, South Australia

July 1990 • $2.50

Registered by Australia Post Publication No. SBH0229

South Australian Apple Users Club, Inc.

Postal address
SAAUC, Inc.
PO Box 322
Prospect SA 5082

Club Committee 1990-1991

President
Bob Owen (Apple][GS & Mac)
Ph (08) 293 1313

Vice President
Peter Jenkins (Mac)
Ph (08) 2435692

Treasurer
Peter McKay (Apple][GS)
Ph (08) 262 3387

Secretary
Ian Bagust (Mac II)
Ph (08) 293 7183

Newsletter Editor
Bill Wardrop (Mac Plus)
Ph(08) 251 2154

Apple][Editor
Keith Zerna (Apple][GS)
Ph (08) 2650364

Program Co-Ordinator
Peter Jenkins (Mac)
Grant Ward (Apple][)

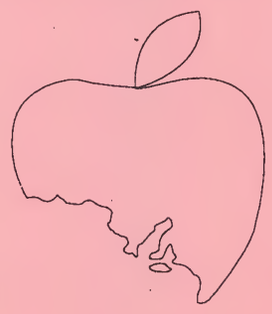
Macintosh Disk Librarian
Brenton Smith (Mac SE)

Apple][/GS Disk Librarian
David Pettinger (Apple //c)

Magazine Librarian - Apple][
George Wissenburg (Apple][GS)

Magazine Librarian - Mac
Michael Coleman (Mac)

Printed by Early Bird Press



Membership Fees

Individuals or Schools $30.00
Corporations / Businesses $50.00
Extended memberships available

Library Disks

Public Domain disks
Apple][(5.25") $4.00 each
Apple][GS (3.5") $7.00 each
Macintosh $7.00 each
(10 or more $5.00 each)

Boxes of 10 blank disks
3.5" DSDD $23.00
3.5" DSHD $50.00
Disk Catalogues 1990 $2.00 each

All programs supplied on club disks have been written using original Apple equipment; no guarantee is given by the club for use of programs on Apple compatible computers.

Postal rates for disks

1 to 9 disks add $2.00
10 disks add $3.00
Greater than 10 disks add $4.00
The above rates include Australia Post insurance worth $50.
Please add an additional $2.50 for insurance cover worth $200.

Public domain disk purchases of $20 or more from S.A. country members (Postcodes 5200 or greater) or interstate members will be posted FREE. The additional insurance charge of $2.50 is still payable if you require the extra cover.

Meetings

Are held on the 1st and 3rd Fridays of each month at the rear of the Prospect Town Hall, Prospect Road, Prospect.

Information page

Contributing Articles

Articles will be accepted from anyone wishing to contribute material for publication in the newsletter, provided it is oriented towards Apple computers. It can be of any topic relating to Apple computers, and may be typed printed normally spaced on standard A4 paper, or preferably on disk as a plain text document. Send articles to the Newsletter Editor c/- above postal address or hand to a club committee member at any meetings. All disks will be returned.

Members who contribute an article with a length of two pages or greater will receive their choice of club disk from the library on request.

Advertising

Small advertisements (quarter page or less) from financial club members will be accepted and published free of charge provided they are signed by the person(s) placing the advertisement.

Business advertising rates are by negotiation or as follows:
1/4 page $18.00
1/2 page $30.00
Full page $50.00
Back cover $70.00

All advertisements will be printed under the proviso that they do not conflict with the best interests of the Club.

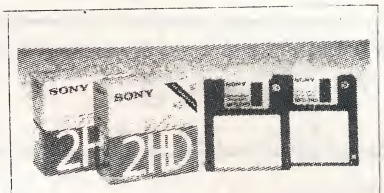
Copyright

Applesauce is the official newsletter magazine of the SAAUC, Inc. This publication is copyright ©1989 by SAAUC, Inc. Authors and advertisers express their own opinions and are responsible for the accuracy of their submitted material.

Permission is granted for the reproduction of original articles contained in this issue by any non-profit organisation provided the author, title and publication credits are given. ■

Editorial

Bill Wardrop



High density 3.5's for up to 2Mb drives. De facto standard for most laptops these days. Yes, they're the best quality available. SONY®.

$50.oo per box

This month you will find a number of articles taken from the "Macintosh News Service". This is a service of the American "Macintosh User Group" and consists of a monthly disk crammed with articles and graphics which user groups like ours are free to reproduce in our magazines. The only conditions are that we carry an advertisement from the sponsor of the month and forward a copy of our magazine, with permission to reprint parts of it. The sponsor this month is Kodak and the advertisement appears elsewhere in the issue.

I trust you will findthe articles from this new source interesting. Not all of them are meant to be serious, as "Technical Stuph" testifies.

Don't forget that local input is still an essential part of the appeal of this magazine. My address is printed below.

The Editor,
Applesauce,
PO Box 303,
St. AGNES SA 5097

CONTENTS

1 Cover
2 Information page
3 Editorial
4 Presidential Pen
5 Diary Dates
6 Word 4 & Excel tips
7 Contents of (IIgs) System Disk Pt.1
9 Adobe Typemanager and you
11 Calling Dr. Video
13 Appleworks classic patches
13 Economy stereo amplifier
15 Launching P16 applications from Basic
16 Modems
18 Technical Stuph
20 Type Align review
24 Magazine Sale

Presidential Pen

J U L Y 1 9 9 0

Three of the committee visited Sydney this month to attend the Apple Convention. This gave us the opportunity to meet with fellow user group members and Executives from Apple Australia. The exchange of information and friendship was very well received by all. We were able to secure a series of training packages, that although out of date, will be very useful to members. We will provide a list of these and for a $5.00 deposit you will be able to borrow these packages. They consist of a 3.5" disk and audio cassette.

Our last month's Mac meeting subject was a very entertaining presentation by Peter Jenkins of the relational database Double Helix. Everyone was very impressed with the ease that it could be used. Considering that this was a fill in due to the inability of our guest speaker to attend.

The Apple][meeting provided an inside view of the new 'HELLO' program that is used on the public domain disks - this was presented by David Pettinger and Keith Zerna.

If you are at all interested in MIDI and Apple Computers, then, do not miss the next meeting. Geoff Peters will be demonstrating MIDI at the next two meetings. We shall be using this to gauge the possible interest in the establishing a special interest group covering this subject.

It is hoped that our membership survey will be included with the next issue. We ask that you take the time to study the survey and then provide us with the information requested. Promptly returning the completed survey will be appreciated. Our appreciation to Dino Porcaro for his time to develop the survey, also our apologies for taking so long to get it published.

Our June magazine, which was out on time, was again to a high standard. Bill Wardrop has this issue prepared on time, but without many articles from members.

Don't forget that members can advertise free, either to sell or wanted to purchase equipment, and are welcome to bring hardware and original software to any of our meetings that they would like to sell.

The committee are developing new ideas for variations to our meeting, if you have ideas for items of interest, guest presenters or speakers etc., then let us know.

I look forward to seeing you at the July general meeting, and the Mac Special Interest meeting.

Regards
Bob Owen

Has this happened to you?

Diary Dates

General Meeting (Apple II, GS and Mac)
Friday 6th July, 1990 7:30 p.m.

- Hyperstudio demonstration
  by Mike Overton
- Introduction to Midi
  by Jeff Peters
- Question and Answer section
- Boxes of 3.5" disks for sale
- All new Apple][, GS and Macintosh public domain disks for sale
- Free tea, coffee and biscuits
- All are welcome - Mac users too!

Committee Members Only
Meeting will be at the airport location on Friday 13th July 1990 at 7:30 p.m.

Macintosh Meeting
Friday 20th July 1990 at 7:30 p.m.

- Introduction to Midi
  by Jeff Peters
- Demonstration of Think Pascal v.3
  by Michael Coleman
- See an Optical Read/Write 600Mb drive
- Question and Answer section
- Boxes of 3.5" disks for sale
- Macintosh public domain disks for sale
- Free tea, coffee and biscuits
- All are welcome

Newsletter contributions may be submitted to any club committee member on paper or disk. Articles on disk can be copied onto club disks at meetings. All disks will be returned to you as soon as possible.

Deadline for next Applesauce
13th July 1990

Note

New Public Domain Disk Prices

Apple][$4.00 each
Apple][GS $7.00 each
Macintosh $ 7.00 each

See 'Disk Catalogue 1990' for further details

New Color Image Compression Software From Kodak

Now KODAK COLORSQUEEZE™ Image Compression Software saves memory, minutes and money for Macintosh II computer users.

You can compress 24-bit PICT and TIFF files up to 50 times (depending on the amount of detail in the image) and retain remarkable image quality. Store approximately 65 compressed images on an 800K diskette.

KODAK COLORSQUEEZE Software is fast: compress or uncompress a 768K image on a standard Macintosh IIcx computer in less than forty seconds. Plus, you can quickly view multiple images with our unique "thumbnail" files. Conforms to emerging JPEG international standards.

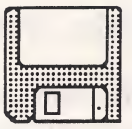
Special offer to MNS readers: Order now and save $25 off the regular price. Regularly $179, it's yours for just $154 if you order by August 1, 1990. Use your VISA or MasterCard and call toll-free 1-800-233-1650, Ext. J (in NYS: 1-800-233-1647, Ext. J) 8-5 EST.

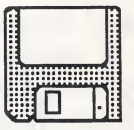
©Eastman Kodak Company, 1990

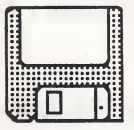
ELECTRONIC PHOTOGRAPHY DIVISION

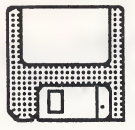
Word 4 and Excel Tips

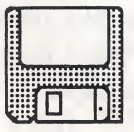
by Ian Bagust

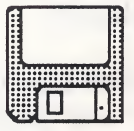












The other day while typing in several pages of text in Word 4, after pressing a combination of keys meant to type a › I must have pressed the wrong keys and to my dismay the program froze.

After some fiddling I had to reset the machine and lose my text. However, I remembered an article I had read recently about reading Word 4 temporary files so decided it was worth a try.

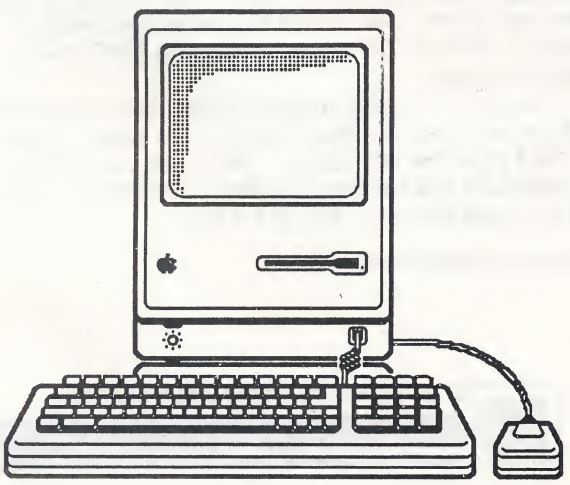
The tip was merely to press the shift key as you pull down the 'File' Menu and instead of reading only the normal files the command becomes 'Open any file'. I then went to the System folder selected the highest number temporary file and there before me was about 90% of my text. Some of the headings which came from the Glossary were missing and several alterations were not there but in several minutes I was back to normal. I am not quite sure of the reason for the Temp files as there does not appear to be any mention of them in the book, but they are normally erased when the program is closed.

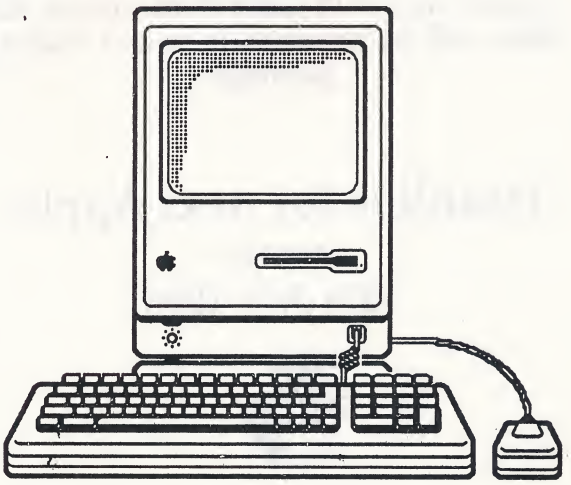
Word Command changes with the Shift Key down.

Document Menu - Repaginate Now - Full Repaginate Now.
Utilities Menu - Spelling - Reset Spelling.
- Sort (Ascending) - Sort Descending.

Excel Command changes changes with Shift key down.

File Menu - Close - Close All
Edit Menu - Copy - Copy Picture.
- Fill Right - Fill Left.
- Fill Down - Fill Up.
Option Menu - Calculate Now - Calculate Document.





GS/OS
#1: Contents of System.Disk and System.Tools

Apple II Technical Notes
Developer Technical Support

Part 1 0f 3

Revised by: Matt Deatherage November 1989
Written by: Matt Deatherage November 1988

This Technical Note describes the contents of the disks System.Disk and System.Tools and the minimum files necessary to boot GS/OS starting with System Software 5.0.

Changes since July 1989: Updated to reflect System Software version 5.0.2.

Reprinted with Permission from Apple Computer Inc.

This Note gives a description of each of the files in the Apple IIGS System Software 5.0.2 package. This package includes three disks: System.Disk, System.Tools, and the Apple II Setup disk for AppleShare 2.1.1 (Macintosh format). System.Disk is bootable and includes two drivers with 5.0. System.Tools is not bootable, but with 5.0.2 it includes other drivers, AppleTalk files, and some utility programs. The Apple II Setup disk is an update for AppleShare File Servers (version 2.01 or later) which allows them to boot into GS/OS. Since the software on this disk is not available for licensing and will not ship with applications, this Note does not cover its contents.

Contents of System.Disk

ProDOS The boot file for GS/OS, ProDOS, contains the code necessary to load GS/OS from any particular file system. This file will be file-system dependent. For example, the file ProDOS on a bootable disk in the ProDOS file system will be different than the file ProDOS on a bootable disk in the High Sierra file system.

System The directory containing most of the GS/OS files.

- CDevs The directory containing all Apple IIGS Control Panel Devices (CDevs) required for minimal operation.
  - Alphabet Sets translation specifications and display languages.
  - DirectConnect Allows selection of direct-connected printers.
  - General Allows setting of general system parameters.
  - Keyboard Sets keyboard parameters.
  - Modem Controls modem port settings.
  - Monitor Sets 40-column or 80-column mode, monochrome or color mode, and the color of text, text background, and borders.
  - Mouse Sets mouse parameters.
  - Printer Controls printer port settings.
  - RAM Controls the size of the RAM disk and the GS/OS Disk Cache.
  - Slots Allows selection of slot settings and startup slot.
  - Sound Sets user preference for sound pitch and volume.
  - Time Sets the internal clock's time and display format.
  - CDev.Data A list of internal Control Panel parameters for each CDev in the directory; the list is precalculated for speed when opening the Control Panel.
- Desk.Accs The directory containing all the classic and new desk accessory files to be loaded at boot time.
  - CtlPanel.NDA The new desk accessory which allows users to control almost all system parameters and choose printers and file servers.
- Drivers The directory containing all device drivers needed by GS/OS and the Toolbox (including the Print Manager and MIDI Tools).
  - AppleDisk3.5 The Apple 3.5 Drive device driver for GS/OS.
  - AppleDisk5.25 The driver for Apple 5.25" disk drives, including Disk II drives and Apple UniDisk 5.25 drives. This driver is required for GS/OS to recognize 5.25" disk drives.
  - Console.Driver The text screen and keyboard device driver for GS/OS.
  - ImageWriter The ImageWriter driver for the Print Manager.
  - Printer The printer port driver for the Print Manager.
  - Modem The modem port driver for the Print Manager.
  - Printer.Setup A file containing the default printer driver and port driver settings for the Print Manager.
- Error.Msg A compiled file containing all error messages required by GS/OS. This file is separate from the GS.OS file to provide easier support for localization.
- ExpressLoad New routines for GS/OS which load specially processed files up to four times faster than previously possible prior to System Software 5.0. GS/OS loads ExpressLoad at boot time on systems with more than 512K total memory.
- Fonts The directory containing all system fonts to be used.
  - Courier.10 10 point Courier font.
  - Courier.12 12 point Courier font.
  - FastFont A preshifted version of Shaston 8 which QuickDraw II loads at QDStartUp time and uses to draw Shaston 8 text faster than could normally be accomplished. QuickDraw II does not load FastFont on systems with 512K total memory.
  - Geneva.10 10 point Geneva font.
  - Geneva.12 12 point Geneva font.
  - Helvetica.10 10 point Helvetica font.
  - Helvetica.12 12 point Helvetica font.
  - Shaston.16 16 point Shaston font.
  - Times.10 10 point Times font.

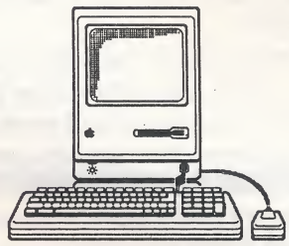
Continued next page

Times.12 12 point Times font.
Venice.14 14 point Venice font.
Font.Lists A file prepared by the Font Manager when FMStartUp is first called. It contains information about all the fonts in the Fonts directory and is only recalculated if the Font Manager reasonably believes the information has changed.
FSTs The directory containing the file system translators to be loaded at boot time.
Char.FST The character device FST.
Pro.FST The ProDOS FST.
GS.OS The remainder of GS/OS.
GS.OS.Dev The GS/OS Device Manager and associated core routines. Separate from GS.OS for speed reasons.
P8 The ProDOS 8 operating system, version 1.8.
Start The boot program. If this file exists, GS/OS will always launch it upon boot. In this case, as in most cases, this is the Finder. The Finder for System Software 5.0 is V1.3.
Start.GS.OS The file containing the GLoader and GQuit routines. It loads the files GS.OS and GS.OS.Dev, which contain the rest of the operating system.
System.Setup The directory containing all the initialization files to be executed at boot time.
CDev.Init A file, required for the Control Panel new desk accessory, which executes any initialization code in any CDev that is in the CDev subdirectory.
Resource.Mgr The Resource Manager, V1.0. This is an initialization file since the design of the Resource Manager requires it to be present even when an application has not specifically loaded it. If this file is not present, the system will not boot.
Sys.Resources A file containing system resources used by the tools and the Control Panel, and which are available to applications.
Tool.Setup A required file that loads TS2, which contains all the patches to tools in ROM for ROM level 01. Tool.Setup would attempt to load TS1 if executed on a machine with ROM level 00, but GS/OS does not boot on such a machine, therefore, TS1 is not included.
TS2 All the patches to ROM tools for ROM level 01.
TS3 A required file included for future compatibility.
Tools The directory containing tool files for all tools not in ROM.
Tool014 Window Manager V3.1.
Tool015 Menu Manager V3.1.
Tool016 Control Manager V3.1.
Tool018 QuickDraw Auxiliary V3.1.
Tool019 Print Manager V3.0.
Tool020 LineEdit V3.1.
Tool021 Dialog Manager V3.2.
Tool022 Scrap Manager V3.0.
Tool023 Standard File V3.1.
Tool025 Note Synthesizer V1.4.
Tool026 Note Sequencer V1.4.
Tool027 Font Manager V3.1.
Tool028 List Manager V3.1.
Tool029 ACE Tools V1.1.
Tool034 TextEdit V1.1.
Finder.Def Finder default settings file. This file must be present on the backup copy of System.Disk you use with the Installer program. The Installer will not be able to install GS/OS if this file is not present on System.Disk.
Icons The directory containing all the icon files used by the Finder.
Finder.Icons The core set of icons used by the Finder for all system files and devices.
Finder.Icons.X The additional icons used by the Finder on systems with more than 512K total total memory.
FType.Main The file type names used by the Finder on all systems.
FType.Aux The additional file type names used by the Finder on systems with more than 512K total memory.
AppleTalk A directory containing files to implement the AppleTalk networking protocols. On this disk, this folder is empty.
BASIC.System The ProDOS 8 BASIC command interpreter, V1.3.
BASIC.Launcher A short program which allows BASIC.System to run AppleSoft program files which are opened from the Finder.
Tutorial A directory containing several "empty" files (files containing two carriage returns) and other directories, used in user-level documentation to teach the concepts of a hierarchical file system. These files are absolutely unnecessary to the operation of the System Software.
Budgets
Finder.Data
Home
CY.1990
CY.1991
Finder.Data
Office
Finder.Data
FY.1990
FY.1991
Finder.Data
Graphics
Ad
Finder.Data
Flier
Letterhead
Masthead
Letters
Finder.Data
Mr.Merritt
Ms.Bachtold
To.Family
Dad
Finder.Data
Mom
TO.FRIENDS
Darryl
Finder.Data
Molly

Continued next month

Adobe Type Manager and You

by Doug Miles



Adobe Type Manager (let's call it ATM) brings scalable outline typefaces to the Macintosh screen for the first time, in the form of Adobe PostScript fonts, and allows them to be printed on any Macintosh printer, PostScript or not! The reasonable price adds to the excitement because it brings this capability within reach of the majority of Mac users. We've all seen crisp LaserWriter printout and wished that for ourselves, but most of us could never justify the hefty price tag. Depending on what printer you're using, ATM can bring some or all of that to you at a price you can afford. And it's simply amazing to see the letters appear smoothly on the screen at any size.

Is this Display PostScript?

In a limited sense, this is a Mac version of Display PostScript, rejected by Apple and embraced by NeXT; but only for text, not graphics. For instance, Encapsulated PostScript (EPS) graphics and documents saved as PostScript code cannot be interpreted, displayed and printed by ATM. And it doesn't support rotated text, or any of the PostScript special effects that some programs offer.

Does ATM give higher quality printing from an ImageWriter II?

Despite what the Adobe ads might imply, ATM cannot improve your printer's best resolution; it just allows you to print Adobe PostScript fonts at any point size with equal quality. With an ImageWriter I or II, you still get the same 144 dpi at best. Adobe fonts are not terribly impressive on an ImageWriter except at sizes larger than you usually see in bitmap fonts. There are plenty of high quality bitmap fonts around that print better on the ImageWriter at the usual sizes. So I think ATM is not suited to general-purpose printing of normal text sizes on an ImageWriter.

Dot-matrix limitations

I've been hearing tales of frustration among dot-matrix printer users trying ATM: It seems the letter spacing is often unattractive. Evidently, dot-matrix printers don't usually print using fractional character widths even if a program supports this feature. Without fractional character widths, I've noted printed results are often lumpy and irregular (even on a LaserWriter) with generally too much space within and between words. There's a limited fix available called Word Mods, by Greg Meece, that makes Word 4.0 print fractional widths to the ImageWriter.

ImageWriter LQ users have long had a sparse selection of decent fonts. Needing an odd-ball 3x bitmap for each printed size, few options existed other than Courier, Times and Helvetica unless resolution was sacrificed. And people with non-Apple 24 pin dot-matrix printers from Panasonic or Toshiba, etc., have been in even worse shape, needing fonts with matching 2.5x bitmap sizes. If you're in this spot, ATM is incredible, marvelous, a major advancement. Test the ATM printout before you buy, though, if possible, to see if the letter spacing looks OK to you.

How does it do with other printers?

If you have one of the higher resolution non-PostScript printers like the LaserWriter IISC and Hewlett-Packard DeskJet, ATM is a big leap forward. You'll find it indispensable, bypassing the long-standing shortage of suitable bitmap fonts. The IISC has been in the Rodney Dangerfield "got no respect" category, but I think that will change. The IISC now produces IINT results – but faster – on text, for about $2000 less. Properly made bitmap fonts (such as the ones that come with the IISC) print slightly crisper than outlines because the location of each dot is specified; no calculation needed. But of course they take large amounts of disk space and print only in discrete sizes. And, the bitmap fonts can print only up to about 30 points in size without dropping below 300 dpi. With ATM you can fill a page with one smooth letter. Strangely, ATM will not currently work with the H-P LaserJet.

The GCC Personal Laser Printer and Hewlett-Packard DeskWriter have their own scalable QuickDraw outline font technologies – and appropriate fonts from Bitstream and Compugraphic – giving some of ATM's function. For owners of these printers, ATM offers access to Adobe PostScript fonts and the WYSIWYG (What You See is What You Get) screen display; it'd be nice, but maybe not essential.

ATM and the LaserWriter

If you have an Apple LaserWriter or any other printer with genuine Adobe PostScript – not a clone – ATM's primary value to you is in providing the WYSIWYG improvement to your screen with Adobe fonts. That can be very nice. ATM reads the same PostScript download font file you keep in your System folder for non-resident fonts. For the 11

Continued next page

fonts resident in your printer's ROM, you need to add the equivalent download files to your System folder for ATM to work with them. Four of these come with ATM, and the other seven list for US$199.

ATM's hidden cost – the fonts.

ATM uses only Adobe PostScript fonts. Any existing Adobe font will work, but no other PostScript fonts from other sources, except certain ones from companies who have licensed Adobe fonts for resale or have licensed the encrypted/hinted Adobe Type 1 font technology. After Adobe publishes the previously secret specs for Type 1, said to occur early next year, other companies may produce them too.

Check carefully with your supplier – some will claim their fonts work on any PostScript printer, but ATM isn't "any PostScript printer," it works only with genuine Type 1 fonts. Right now that includes fonts from Adobe, AutoLogic, and Linotype, and excludes those from Casady, Dubl-Click, etc., and all PD/shareware fonts. Some vendors, like Agfa Compugraphic and perhaps Image Club, market fonts in several formats including Type 1, so again you should order carefully.

ATM ships with four fonts: Helvetica, Times, Courier, and Symbol; the same four as built into the original LaserWriter. You get bitmaps to install in your System and standard PostScript download font files to drag into your System folder.

Adobe fonts are expensive: from US$95 to US$240 or so – each! – from Mac Connection, depending on the number of weights and styles included. But the Plus Package is reasonable at US$199 (list): This group of seven additional fonts brings your choices up to the same eleven that are built into most PostScript printers. If you want to broaden your choices beyond this level, it will cost you.

The Symbol hint

Suppose you don't need all those Greek and math characters in the Symbol font. So don't waste disk space on it, right? Then you notice that fifteen of the Greek/math characters in your other fonts don't print right – they come out as jagged scaled bitmaps. Adobe has saved file size in most fonts by not including the PostScript definitions of these characters, just referencing them to the Symbol font. If Symbol is available, then your other font "looks up" the PostScript outline for those fifteen characters from Symbol when needed. If you want to print those particular characters, you need Symbol installed. Without Symbol, you get bitmaps scaled from the screen font. Yuk!

Details, details

The 10 and 12 point bitmap sizes that Adobe supplies (and suggests installing) are used for screen display in preference to scaling the outline to those sizes. It's faster, and calculating such small sizes would strain the ability of ATM to produce a clean display at only 72 dpi. If you have more bitmap sizes of the font, the screen will prefer to display the bitmaps whenever you choose one of those installed sizes. I think ATM would function fine without any bitmaps, but it needs the font's FOND resource for width tables, kerning info, etc. And the FOND associated with the bitmaps is what puts the font name on your menu.

A cdev, the ATM file is dragged into your System folder and will operate after you restart. You can turn it on and off from the Control Panel DA, and set the size of the font cache. ATM will take about 128K of memory to operate, plus whatever RAM you set aside for its font cache, 96K minimum. Look into a RAM upgrade; you'll need it for System 7 anyway!

The matter of speed.

There is a slight lag in screen response when changing text from one PostScript font to another, or from one size to another, as the info is read into the font cache. Yes, there's a font cache, which works like the Mac's Control Panel RAM cache, but just for fonts, and it takes some of your RAM to operate. It defaults to 96K, but larger is nicer, resulting in better response and faster printing.

Once a font and size are specified (and in the cache), response to typing is normal at text sizes, still a bit slower for larger text. A 68020 or 68030 Mac has less slowdown effect, as expected. On a Mac Plus or SE, under some circumstances, you might try typing everything in Geneva first for the quicker response, then change to the desired font.

A font menu that displays the font names in their proper fonts, like with MenuFonts, will be slower to display the whole menu. This can be annoying if the menu is long, but MenuFonts is much faster than Suitcase II's similar feature. A reduced page view, such as the print preview features of many programs, is slowed as ATM struggles to calculate and display the tiny text. Reduced views in desktop publishing programs like Ready,Set,Go! and PageMaker should be set to "greek" the text for faster display. Too bad Word can't do that.

Is ATM friendly with other software?

ATM works fine with Suitcase II and many other utilities that deal with fonts. But I haven't tried ATM with Juggler, and there are many other utilities I haven't tried. Suitcase II works completely normally, and continues to display the bitmaps, in the installed sizes, when you "Show" a font. MenuFonts works fine, and, as usual, does the menu trick faster than Suitcase. BigCaps works great, and surprisingly fast. Acta, DeskPaint, Easy Envelopes, QuickLetter, etc., all work normally. In fact, ATM is essentially transparent to other programs, just doing its thing and minding its business. An exception: ATM prevents Fontastic Plus from editing any bitmap font, installed or not. Have to turn ATM off and restart.

Some Adobe fonts print with poor letter spacing

Continued next page

Useful/ Interesting Tip for Novices Appleworks Classic Patches

by William Chang
reprinted from AUSOM News, September 1989

AppleWorks has many tiny annoying features that date from the time it came on two 5.25" disks. For IIGS owners who run it off a hard-disk or a 3.5" floppy or even a RAM-disk, there is the plea of "Press Space Bar" during initial load-up, and to enter the date (which has already been read from the internal clock) which are irritating when one wants to leave the computer until it has finished loading. These can be avoided by doing the following patches:-

1. Make a copy of the Appleworks program disk.
2. Get into Applesoft Basic (ProDOS).
3. BLOAD the System with:
   BLOAD/APPLEWORKS/APLWORKS.SYSTEM,A$2000,TSYS(return)
4. Type the following (Be careful of your program version)

Check everything before pressing Return after each line.

AppleWorks 2.0:-
POKE 14468,44
POKE 14148,208
POKE 14149,19

AppleWorks 2.1:-
POKE 14118,44
POKE 14436,208
POKE 14437,19

5. BSAVE the file back with:
   BSAVE /APPLEWORKS/APLWORKS.SYSTEM,A$2000,TSYS(return)

6. Boot the disk to see if all's well.

With luck, you will now have an AppleWorks that will load up from boot, into the Main Menu without any interruptions.

Other patches for AppleWorks (Classic) are entered with POKE in the same way. Patches are usually found in magazines, and may change the program to make it easier to use. Always patch a back-up copy only, not the Original!

Editors Note: This article is still interesting to someone out there, but AppleWorks 3.0 now checks what hardware it is running on and leaves either one or both questions out depending on the hardware. AppleWorks 3.0 is excellent.

Economy Stereo Amplifier
by William Chang

reprinted from AUSOM News, November 1989

Tired of the tinny sound from your Apple speaker? Those with about $2000 can stop reading now - just buy the latest stereo amplifier and a set of Hi-fi speakers. If you haven't got that type of money after spending a fortune on Apple hardware, here's a cure for sore ears, for under $30!

This is one of the cheapest ways of improving the sound of the Apple IIGS (and any other Apple with a sound output port). The other is to connect a pair of 8 ohm speakers to the IIGS earphone directly. This does cause strain on the built in amplifier as it has to be turned up all the way to be heard, and your friends don't get to enjoy your digitized rhythms. A more expensive way is to buy a pair of Bose Roommates or similar. However, these have no external volume control but do give good sound. Yamaha DM-01s were just right at US$129, but are now discontinued. Their amplifiers also run on 120V, incompatible for our 240V mains power.

I had a pair of Aiwa speakers that I bought during the Walkman craze, which were occasionally plugged into the IIGS. The lack of volume control could eventually bring complaints from the neigh-

Continued next page

bours, so I went to the various electronic stores for a cure. One suggested using 10K potentiometers for volume control, but these distorted the sound terribly. Finally, I found a solution at Dick Smith.

Dick Smith Electronics retail a kit for a Stereo Amplifier, which is part of their Funway electronic course. Thus I left the shop with the following:

Mini Stereo Amplifier kit K-2667 $18.95
Figure-8 shielded stereo cable (5 feet)
Mini walkman-type stereo plug
Suitable case for the Amp (Jiffy Box)
Pair of knobs for potentiometers
Potentiometers
Mains Terminal block

which left me a few cents change for $30.00 You will also need a 12v 300mA power source, but I already had one. By the way - Instructions are not included - they are in the Funway Volume 3 book which costs some $6.95. There is a package deal though, of the Amp kit plus book and another kit for $29.95. Hint: Give book and extra kit away for Christmas.

Note: I believe that most computer enthusiasts will already own the following and know how to use them:-

Soldering iron 10-30w
Pliers, clippers etc.
Multimeter (not really necessary)
Drill and drill bits (for case)

If you are not really adept at soldering yet, practice first before building the kit, or give the job to someone else. There are four Integrated Circuits in the kit - CMOS ICs are quite heat-sensitive, so buy sockets for them.

The building instructions and PC Board Layout is all in the book, so there is no need to describe them in detail here. The Amp kit can also be built as a Public Address system, but we require the actual Walkman-stero amplifier variant. Just build it according to the instructions.

When the PCB is fully soldered, solder on short wires to the necessary tracks. You will end up with 8 (Channel 1, Ground and Channel 2) for input and 3 for output. These short wires can be screwed into the Terminal block for later connection to plugs and speakers. The case can be drilled to allow the 8 wires to come out, and the for two potentiometers which control the volume.

The Amplifier provides some 3W of power to a pair of 8-ohm speakers. Most Walkman-speakers have a direct connection to the actual speaker so this can be used. If this is not available, then you will have to open up the speakers and solder the cable onto the speaker tabs. These cables are screwed into the Output section.

The mini stereo plug should be wired up now with similar shielded cable, and screwed into the Input wires. Power must be supplied from a transformer or battery at the tune of 9-15vDC 300mA. Although batteries can be used, they will only last 2-3 hours (AA cells).

Before using it on your precious Apple Headphone Port, test it on a Walkman. It would be cheaper to replace than a motherboard! Turn them on... If all's well, then sound will come blasting out of the speakers. If not, then you have a problem (as if you didn't know). Check all wires again, and all solder joints. Read the Troubleshooting section of the book. Anything!

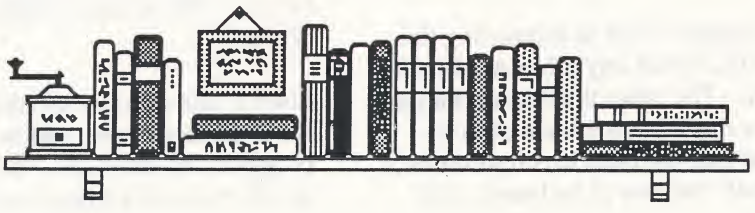
To be really save, use the Multimeter. Power consumption should be around 25 to 250mA. The circuit should not get hot in any area. There should be no smoke billowing out!

Still, if all ends well, cross your fingers and plug the thing into the headphone port of the Apple. Play your latest digitized music, and enjoy!

Tips: The circuit board can be housed in an unused 3.5" 10-disk storage box (eg: The ones Xidex disks come in), and holes drilled in it for the pots and wires.

Tandy sells a 4-inch speaker in an empty plastic case for an Amplifier. Buy two if you don't have speakers. They're $2.00 each only at the moment.

Don't place the speakers next to your software collection! Speakers have powerful magnets.



in programs not supporting fractional character widths. Only a few programs, mostly newer word processors and page layout programs, have fractional character width capability. MacWrite II, WriteNow 2.0, Word 4, PageMaker, Ready,Set,Go!, and some others do have fractional widths, and you usually have to take some action to turn the feature on. Please, turn it on!

The problem arises with certain Adobe fonts in which there's a significant difference between the font family width tables and the character widths set in the individual bitmaps. My impression is that this is more likely among Adobe's newer releases. If a program doesn't read the fractional widths from the tables, it uses the widths from the bitmaps, and then these fonts print with wider and somewhat irregular spacing. I don't know why some fonts are like this.

Your programs' Font Size menus generally list only the limited "standard" point sizes; 9, 10, 12 and so forth. Since with ATM you can now display and print Adobe fonts in any point size equally well, most Size menus now are unnecessarily limiting. It's become more important to have a font size choice of "Other." This is nothing new to LaserWriter users, who have been facing this all along. ATM struggles to display (and print) your text to the best of its ability whatever size you choose, and the bigger you choose, the better it looks.

Will System 7 make ATM obsolete?

Apple's new "Royal" outline font technology will bring you ATM-like results for free. For Macs with 2 megs of RAM, that is; but 2 megs can be had now for only about $170. To the best of my understanding, System 7 will support existing bitmap fonts, existing PostScript fonts printed to PostScript printers, ATM and Adobe fonts to those printers now supported, and its own QuickDraw outline fonts to almost any printer.

If you want to wait for System 7 to show up, you can avoid the expense of ATM and Adobe fonts. Apple will undoubtedly ship the "basic four" outline fonts with the System, perhaps a few others. Many suppliers are promising that their whole libraries will be available in Royal format almost immediately. Maybe not Adobe, though!

The open format of System 7 outline fonts will mean greater font choices at more reasonable prices, even shareware. The implications of Microsoft's support for this format in the IBM operating system are unguessable, but the potential is enormous. But if you want Adobe fonts scaled on your screen to match your LaserWriter, or if you prefer Adobe fonts on your non-PostScript printer, ATM will be valuable even in System 7.

I think ATM will be recognized as a software landmark; an important turning point toward a new level of WYSIWYG for the Macintosh. A major factor in this importance is the surprisingly low price: $99. If it had been priced upwards of $600 – and it could have been – it would not be so important. Important, yes, but without the same broad impact on the Mac community; just another instance of Adobe price gouging, beyond the reach of "the rest of us." As it is, ATM has caused a lot of excitement and Adobe will sell a lot of copies; likely tens of thousands.

MUG NEWS SERVICE, 1989

Calling Dr .... Video

"What you need is a 32-bit, Monochrome, two-page, 78dpi, 17-inch high resolution, non-interlaced, swivel based computer specific monitor. It will only cost you $7,000.95, but we can make you a special offer of only 6995.00 for today only."

Sound like computer jive to you?? It does to the doctor, too! Let's debunk computer terms today. In the first place 32-bit is wasted on a monochrome monitor. In the second place 78dpi is not an Apple standard.

DPI - Dots per inch, this is how many addressable dots that are on the screen. The Macintosh uses 72 addressable dots to the inch. That means that a screen that uses a different number of dots will not have a full size image on the screen, or "what you see is only close to what you get." The actual number of dots on the screen is normally larger than the number of addressable dots, the monitor will turn on a group of dots to create a pixel. A Pixel is one addressable dot.

Aspect Ratio - This is the shape of the dot, Apple uses an aspect ratio of one. That is the pixel is square (the same height as width). Screens will have aspect ratios that vary from .7 to 1.3. If it is not an aspect ratio of one then what is on the screen will not be what is on the paper.

Monochrome - This is an indication that the monitor is a two-color monitor, a background (like black or gray or yellow) and a foreground color that contrasts (like white or blue) this monitor is capable of displaying levels of gray (sometimes it is not really gray but the foreground color). This monitor is not adjustable for color and it will not allow you to use color applications very well. The screen in a Mac Plus or an SE is a monochrome monitor that addresses a single bit.

Continued next page

XX-bit Put number where the "xx" is) - The number of bits of memory that each pixel (dot) takes to create its dot on the screen. In video memory there is enough memory to address the whole screen at once. A one-bit video card (Note the video card normally controls the number of bits in a pixel, not the monitor!) allows a single foreground color on a screen (even if it is a color monitor). That means that if you buy a 7,000 dolor monitor and a 1-bit video card the screen will look like the one in your SE. A 2-bit card will allow 4 colors on the screen. A 4-bit card will allow 16 colors on the screen (which is all the SE will address). An 8-bit card will address 256 colors (this is the norm for the Apple color monitors). A 24-bit card will allow over 1 million colors on the screen at the same time.

Color Monitor - This is a monitor that has groups of 3 dots that make up a single dot on the screen. The guns in the back of the monitor excite the small dots to produce color in a binary (or trinary fashion).

Refresh - The number of times each second that the screen redraws itself. The screen in a Mac Plus refreshes about 60 times each second. Faster refresh allows the screen to update more quickly for animation or live video editing.

Interlaced - The computer screens normally refresh in a two step process. The Apple monitors refresh in a non-interlaced fashion, at a 50 and 60 Hertz (times a second) fashion. This non-interlacing is done to keep the screen from flickering.

Multi-Sync - This monitor has a computer in it to allow it to adjust to the input of a video card. Most multi-sync monitors do not run fast enough to work with the Macintosh or the NeXT machine. They are rapidly moving in that direction. Multi-sync monitors cost more money and are not required for the Macintosh, the video boards almost all run at the same speed or come with specific monitors.

NTSC - This is a standard for moving video from computers to television sets, VCR's and other consumer related products.

RGB - Red, Green, Blue, a method of addressing the screen one base color at a time and mixing them on the screen, not in the video board or the software.

Composite - this is a method of addressing screen with all the colors premixed. It is normally a little faster, but harder to control for true color. It is the older of the two technologies.

Video in - This is normally referring to allow the user to hook a television camera or a VCR to the video card and displaying on the screen, some of the cards allow for "video capture," which lets the image from the camera or VCR be turned into computer data. A board with video in and no capture mode will only put the VCR information on the screen, it will not convert it to computer data.

Video out - This is a method that allows the screen data from the computer to be recorded in real time on your VCR.

Off screen bit map - In order to do very smooth animation, some video boards (very high end "read expensive") have a buffer of extra memory that allows the whole screen to be drawn and then dumped to the screen all at once. Normally the information is provided a piece at a time.

Pitch or resolution - The size of the dots that are physically placed on the inside of the glass on the screen by the manufacturer of the screen determines the pitch or resolution. You will hear manufactures talk about 0.5 millimeter and 0.3 millimeter pitch. That can also be translated into a pitch of 51 or a pitch of 85. If the number for pitch is less than one, then the smaller the number the better. If the pitch is a number larger than 10, then the larger the number the better. If the pitch number is between 1 and 10, the salesman is feeding you jive.

multi-layer - Some special effects boards for computer aided video production have the ability to take an input from a VCR, a camera, the computer and display them at the same time. These boards are beyond the scope of this article.

LCD - This is the technology that most the the laptop computers use to make computer screens that fold down or for the flat panels we put on the overhead projector at the meetings. This technology is OK for those purposes but not for everyday use in an office. An LCD that is backlit has a light that shines thru the screen from the back, so the dark pixels are not washed out in the sunlight.

Jackson Pollack project - He was an artist that used a lot of color in his paintings. The project that Apple connected his name to was the one that allowed the Macintosh to address 32-bits of color on the screen.

Trinitron - This is a Sony trademark and patent. The trinitrons are the best monitors available on the market today. The increased quality may not be worth the increased price. The Apple color monitors use Sony trinitron technology.

Now that you know a few of the terms, see who you can catch at computer jive.

MUG NEWS SERVICE, 1990
Reprinted from MacTechnics, July 1989

Launching P16 Applications from BASIC

Reader: TBBS user
Acting Consultant: Karl Bunker

How do you launch P16 applications from BASIC?

Here is a routine to launch P16 applications from BASIC, provided BASIC.SYSTEM was launched from GS/OS (or ProDOS 16). It assumes that the prefix of the file to launched is in P$, and the filename is in F$. It takes into account the case where F$ is padded with spaces, as it would be if it were directly READ from a DIR file. What these lines do is POKE the full pathname into $280, and then POKE a tiny machine language routine that does an "enhanced ProDOS 8 Quit call," which includes a pointer to the pathname.

```
1120 REM Launch a $B3 (S16) application
1130 FOR I = 1 TO LEN (P$) : POKE 640 + I, ASC
(MID$ (P$,I,1)) : NEXT : I = I - 1
1140 FOR L = 1 TO LEN (F$) : C$ = MID$ (F$,L,1) :
IF C$ <> " " THEN I = I + 1 :
   POKE 640 + I, ASC (C$) : NEXT
1150 POKE 640,I: REM Poke in leading length byte.
1160 V$ = "000560320312541440010962511751
   8900022505625124024603200019110 10
   230030000042381280020000000000" :  FOR A = 768
TO 798:V = VAL
   (MID$ (V$,3 * (A - 767),3)) : POKE A,V: NEXT:
CALL 768
1165 REM This line executed only if machine isn't a
GS, or GS/OS hasn't
   been booted.
1170 PRINT : PRINT "GS/OS not available."
1175 END
```

List Files using GS Basic

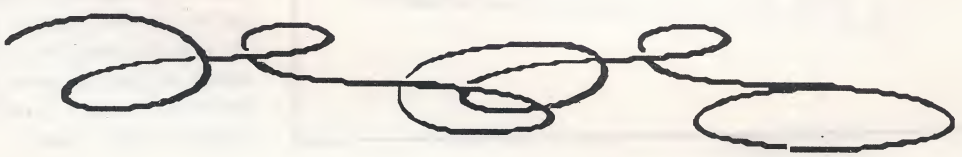
I have Apple's GSBASIC and am happy with it except for one thing, printing files. I used to be able to load an Applesoft program, type PR#1, then LIST to make a printed copy. Can you please tell me how to make a printout of my GSBASIC programs?
   johnd@pro-europa

GSBASIC does not offer any direct way to print a file as with the familiar AppleSoft procedure you described (at least not that I know of - the GSBASIC documentation is somewhere between here and heaven, in a place mere mortals cannot comprehend). However, you can print your GSBASIC files. Try the following code: (Editor's Note: Ellipses (...) are used to indicate a line broken for publication purposes.)

```
 10  :  INPUT "Enter name of file to print (Type Q
to quit) : ";name$
 20  :  IF name$ = "q" THEN END
 30  :  IF name$ = "Q" THEN END
 40  :  x = 0
 50  :  x = FILE name$ : REM Check for existence
of file
 60  :  IF x = 0 THEN GOTO 10 : REM Taken if file
not found
 70  :  OPEN .PRINTER, AS #1 : REM GSB slot #
convention
 80  :  OPEN name$, FOR INPUT AS #10: REM
Read only file
 90  :  ON EOF #10 GOTO 200
100  :  OUTPUT #1 : REM Route screen output to
printer
110  :  INPUT #10; a$
120  :  PRINT a$ : REM This will print to file #1,
the printer
130  :  GOTO 110 : REM Loop until EOF detector
encountered
200  :  OFF EOF #10
210  :  OUTPUT #0 : REM Turn off printer, turn
on screen
220  :  CLOSE #1 : REM tidy up ...
230  :  CLOSE #10
240  :  GOTO 10 : REM Loop until no more files to
print
```

If you are trying to read a GSBASIC data file, you will have to substitute the READ command for the INPUT command in line 110. This is described in Chapter 6 of the GSBASIC documentation.

Joe Abernathy



Reprinted with permission from Microsoft Communique

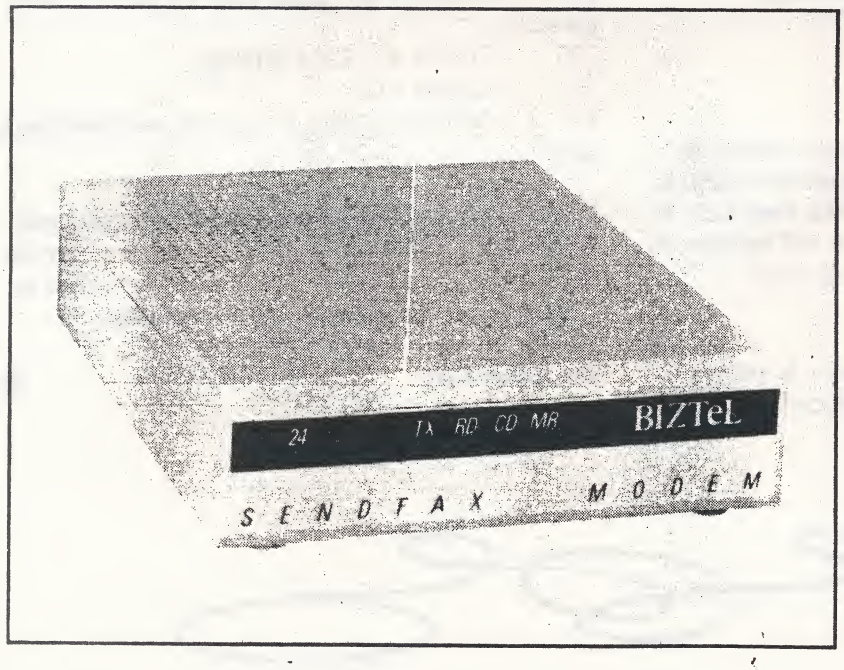
COMPUTERS AND COMMUNICATIONS

PART 1 - MODEMS

It wasn't so long ago that the world of COM ports, baud rates and modems were very much the domain of those strange creatures, computer hackers. The media had a ball creating images of these hackers lurking in their airless, machine-filled rooms, never seeing the light of day. Hunched over their keyboards tapping out strange commands and making the little lights on their modems flicker and flash. Every now and then, the newspapers would report a hacker breaking in on some big corporate computer. A pasty-faced youth would then be held up as an example before the legal system as judges and juries struggled with the concept of bits and bytes and computers "talking to each other". But the realm of computers and communications is no longer a secret - indeed it is emerging as one of the most exciting areas of development in the modern business world. Most computer users would be well aware that a modem is a device to connect your PC to a telephone line and enable communication between a similarly equipped computer whether it's next door, in the next city or across the world. But how do you go about deciding what modem to purchase, what can you do with them, and what does the future hold for computer-based communications? At first glance, modems are highly technical devices with a language all their own. But the reality is that they are no more technical than any other part of a PC, and a little knowledge will equip you to make intelligent choices of communications hardware. The discussion here is just as applicable to MS-DOS, Macintosh or Unix users, with the exception of a few details.

MODEMS MADE EASY

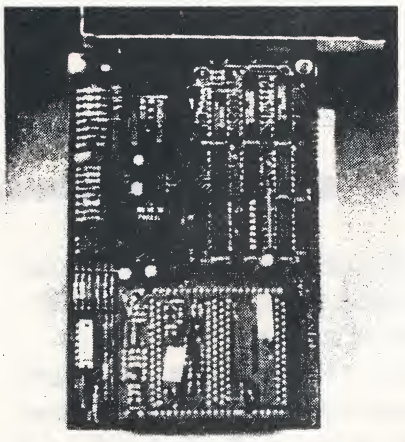
Most modems are small external boxes that happily sit next to your PC. They connect to the computers serial or COM port via a suitable cable. At least one COM port is now standard equipment on all PC's and they are simply a way for the computer to communicate with the outside world. If you have a Mac, the only difference is that you have a special port on the rear of your computer set aside specially for a modem, and you will need a special cable to attach the modem to that port. An alternative for PC users is the internal modem which comes as a card that plugs into one of the expansion slots inside your computer. Either variety work in exactly the same way - they attach to a standard telephone line and serve as a gateway for your computer to talk to the outside world. The main difference between modems is speed. The better the modem, the faster it can accurately throw data down the phone line. The various speeds have been standardised and are expressed as baud rates. At present, the most common baud rate is 2400 baud, also known as V22Bis. This roughly equates to around 230 characters per second. Other speeds are V23 (1200 baud), V21 (300 baud) and V32 (9600 baud). If you are shopping for a modem, by all means go for a fast one, but remember that you need a modem of equal capabilities at the other end to take advantage of the extra speed.



PICKING A MODEM

What do people do once they have a modem? In the early days when using a modem was strictly the domain of the dedicated hacker, they only communicated with other equally dedicated hackers. Now there is no information that you cannot access by PC and a modem. Information services as diverse as stock prices and school project information are readily accessible from your computer. Banking transactions by computer are an everyday event for thousands of Australians. Vast amounts of hints, tips, public domain software and other useful data is shared daily over the huge Bulletin Board System that extends all over the world. But there is a caveat here. As uses for modems increase, so the needs of users becomes more specific and this is where careful choice of a modem really counts.

Continued next page



A fax card will easily fit into an empty expansion slot

FACTS ABOUT FAX MODEMS

A good example of this diversity of use is the crossover between "traditional" computer communications and the now ubiquitous fax machines. Because facsimile machines are little more than a push-button phone, a scanner, thermal printer and modem rolled into one, fax communication is a natural for computers. While Macintosh users have been starved of hardware that gives them fax capabilities, there are numerous fax cards available that give PC users full Group Three fax send and receive capabilities from their keyboards. Interestingly, one Australian designer/manufacturer has combined the best of both worlds and produced a fax modem that will attach to PC's, Macs and even Unix based machines. Biztel Products based in Sydney, launched the Sendfax late in 1989. A full featured 2400 baud modem with 4800 baud fax sending facilities, the Sendfax takes but a few minutes to install, and using it as a fax or modem is as easy as loading the appropriate software provided. There are appropriate versions for the Mac and Unix environments as well. The Sendfax has proven a great hit as a supplement to a standalone fax machine, for the occasional "faxer", and as a real boon to laptop users - giving them modem and fax facilities whenever they are near a phone line. So successful has the concept been, that a full Group Three, 9600 baud, send and receive fax modem is on the drawing boards for release later this year. Bob Singleton, designer of all Biztel's modem range, and director of the company, said that he expected the new fax modem to be even more popular than the Sendfax and to be especially well received in the booming corporate market.

FUTURE DIRECTIONS

So much for the combined fax and modem end of things, but what about other future trends in computer communications? Well, we are already seeing big changes to modem design, so much so, that they will affect the whole way we use our computers. Already, modem designs are stretching the limitations of Telecom's phone system in terms of speed. The faster a modem tries to work, the more it pushes against these limitations and the more problems are caused by noise on the line. There are ways around these difficulties, the Trailblazer modem being a good example. Using sophisticated microprocessor control, this modem can achieve speeds up to 19k baud on a good line, talking to another Trailblazer.

These devices are expensive though and beyond the reach of everyday modem users. So, other methods have been developed to squeeze as much performance as possible from existing phone systems. Enter the realm of data compression and error correction. These techniques involve the modem analysing the data that the computer sends it and, using complex algorithms, works out short sequences of characters that represent a longer string of information, effectively compressing the data. At the other end, a modem which understands the same data compression methods, 'unpacks' the compressed data. Obviously, this method relies on having modems working on the same compression method on both ends, and here is where problems can arise. At present, there is one data compression method which is in fairly common use called MNP. This works just fine, but its long term future is unsure. Because MNP has evolved as a defacto data compression method, there are no guarantees about its longevity. There are also five levels of implementation within the MNP protocol which are not all compatible with each other. According to Bob Singleton at Biztel, the future lies not in such haphazard defacto standards, but rather by following the international modem transmission standard that includes data compression. CCITT is the name of the international body that sets such standards for most of the world, and all our existing data transfer protocols are CCITT sourced. When you hear of V21, V22, V22bis and V32, you are hearing about the CCITT standard of different baud rates. The new baud rates which cover a data compression and error correction method are V42 and V42bis. Biztel have a V42 modem in the last stages of design now and expect to have it on the market later this year. Singleton explained that by following such internationally agreed upon standards, Biztel would be setting the pace in Australia with a modem guaranteed to be compatible in the world arena. The new V42 protocol allows for some compression of data which means that effective throughput will be something in the order of 120 percent of the actual baud rate. When V42bis is implemented, the compression is greater and an actual throughput of up to 400 percent of the actual baud rate can be expected. While MNP is certainly a valid data compression technique, it is likely to be rather short lived and it seems certain that V42 and V42bis take over as THE standard for faster, more efficient modem transmission.

THINK BEFORE BUYING

What can we learn from all this? First, think through carefully what you want from a modem. Is it simple, local modem-to-modem communication? Is it likely to be long-distance communication where time is money and a high speed, data compression, error correcting modem would be most cost effective. Are you looking for compact, laptop-based communications? With fax facilities or not? Choose carefully and you will find your modem or faxmodem will do the job you want well into the future and at reasonable cost. Next month we look at choosing communication packages.

• **Neil Atwood**

Technical Stuph

By Fred Terwilliger

While going through my backlog of past files, I came across a file marked "Top Secret", one of my past 'Gray Studies'. I really do not know from whence it came, but a classic paper it is. So I am reproducing it here, with a one-handed (because he won't hear it anyway) round of applause for the original author. It has to do with building your own Atomic Bomb and the Macintosh. Great ideas for great people. A terrific fun project for a weekend. Invite the neighbors.

"The following paper is taken from The Journal of Irreproducible Results, Vol. 25, No.4/1979."

1. Introduction
Worldwide controversy has been generated recently from several court decisions in the United Sates which have restricted popular magazines from printing articles which describe how to make an Atomic Bomb. The reason usually given by the courts is that national security would be compromised if such information were generally available. But, since it's also commonly known that all of the information is publicly available in most, if not all, good metropolitan libraries of any stature, obviously the court's officially stated position is covering up a more important factor; namely, that such atomic devices would prove too difficult for the average citizen to construct. The United States courts cannot afford to insult the vast majority of computer owners by insinuating that they do not have the intelligence of a cabbage, and thus the 'official' press releases claim National Security' as a blanket restriction.
The rumors that have unfortunately occurred as a result of widespread misinformation can (and must) be cleared up now, for the construction project this month is the construction of a Thermonuclear device, one which we have had many letters for, over the past year or two. We will see how easy it is to make, and trigger (by your Mac) , a device of your very own in ten easy steps, to have and hold as you see fit, without the very annoying interference from the government or the courts.
The project will cost between $5,000.00 and $30,000.00, depending on how fancy you want the final product to be. So let's proceed to the easy step-by-step instructions. Be VERY CAREFUL in following them to the letter.

2. Construction Method
1. First, obtain about 50 pounds (110 kg) of weapons-grade Plutonium at your local supplier (see Note 1, re; Khadafi aka Beirut source). A Nuclear power plant is not recommended, as large quantities of missing Plutonium tend to make plant engineers unhappy. We suggest that you contact your local terrorist organization, or perhaps the local Junior Achievement group in your neighborhood.
2. Please remember that Plutonium, especially pure refined Plutonium, is somewhat dangerous. Wash your hands with soap and warm water after handling the material, and do not allow your pets, even your children, to play in it, or even eat any of it. Any left over Plutonium dust is excellent as an insect repellent. You may wish to keep the substance in a lead box if you can find one in the local junk yard, but an old coffee can will do just nicely.
3. Fashion together a metal enclosure to house the device. Most common varieties of sheet metal can be bent to disguise this

Continued next page

enclosure as, for example, a lunch pail or even a Buick. Do not use tinfoil.
4. Arrange the Plutonium into two hemispherical shapes, separated by about 4 cm. Use rubber cement to hold the Plutonium dust together.
5. Now get about 100 pounds (220 kg) of Trinitrotoluene (TNT). Gelignite is much better, but messier to work with. Your helpful hardware man (J&K Lumber, Nichols, etc.) will be happy to provide you with this item.
6. Pack the TNT around the hemisphere arrangement constructed in step 4. If you cannot find Gelignite, feel free to use TNT packed in Playdo or any modeling clay. Colored clay is acceptable, but there is no need to get fancy at this point.
7. Enclose the structure from step 6 into the enclosure made in step 3. Use a strong glue, such as Sears Roebuck 'Wood Craftsman Glue', model S-27406, or even the good old standby 'Crazy Glue', to bind the hemisphere arrangement against the enclosure to prevent accidental detonation which might result from vibration or mishandling. This would be embarrassing and you wouldn't live it down.
8. To detonate the device, obtain a radio-controlled (RC) servo mechanism, such as one found in RC model airplanes and cars. With a modicum of effort, a remote plunger can be made that will strike a detonator cap to effect a small explosion. These detonator caps can be found in the electrical supply section of your local supermarket. We recommend the 'Blast-O-Matic' brand because they are 'No-Deposit No-Return'.
8a. The Macintosh computer is now fitted with a simple modem device that will, upon ringing a number of your choice, will ring a number at the other end, the 'bell' wires which have been cut off and attached to the servo mechanism drive unit. You now have a simple source of power.
9. Now hide the completed device from the neighbors and children. The garage is not recommended because of high humidity and the extreme range of temperatures experienced there. Nuclear devices have been known to spontaneously detonate in these unstable conditions. A dry, cool place, like under your kitchen sink, will be perfectly suitable.
10. Now you are the owner of a working thermonuclear device! In a pinch, it can be used for National Defense purposes.

3. Theory of Operation
The device basically works when the detonated TNT compresses the Plutonium into a critical mass. The critical mass then produces a nuclear chain reaction similar to the domino chain reaction, which then produces a largish thermonuclear reaction. And there you have it, a 10 megaton explosion!
We'll see you next month, I hope, providing that the government doesn't read the above article.

4. Next Month's Column
In next month's column, we will learn how to clone your next door neighbor's wife or husband in just six easy steps. This project promises to be an exciting weekend full of fun. It was for me! The best thing about it was that standard kitchen utensils were all that I needed.

Note 1. Plutonium (PU), atomic number 94 is a radioactive element formed by the decay of Neptunium and is similar in chemical structure to Uranium, Saturnium, Jupiternium, and Marisium.

MUG NEW SERVICE, 1990
Reprinted from the Upstate Apple User Group News, Nov89

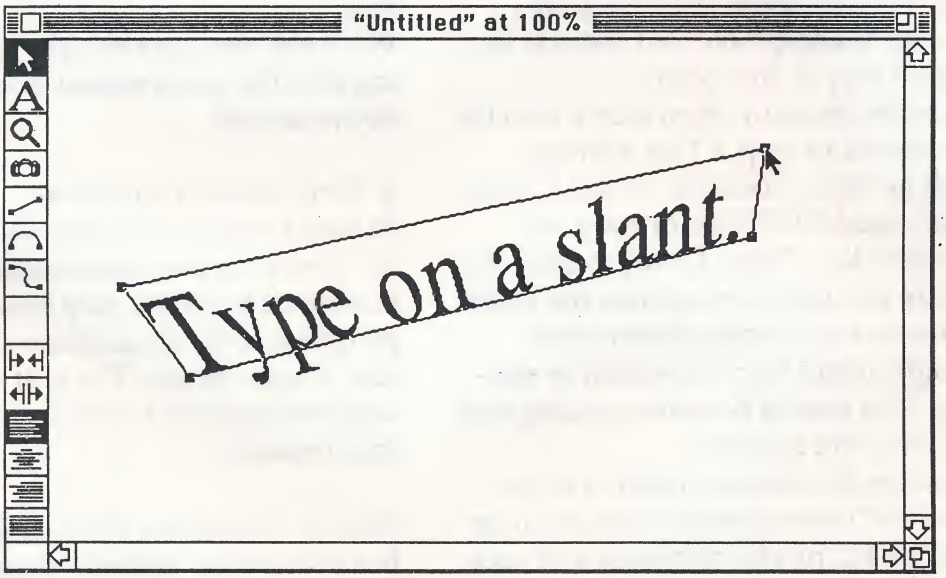
TypeAlign Review
by Jim Alley

Emerald City Software has done it again. They've come up with another product that we can endorse wholeheartedly. Smart Art I, II, and III have proven to be very popular desk accessories for desktop publishing. The only limitation of the Smart Art packages is that you have to have a 300 dpi PostScript printer in order to realize the special typographical effects that they can produce. TypeAlign is even better in this regard; you can use it with almost ANY printer—all you have to have is Adobe Type Manager—and it is looking as though just about everybody has ATM.

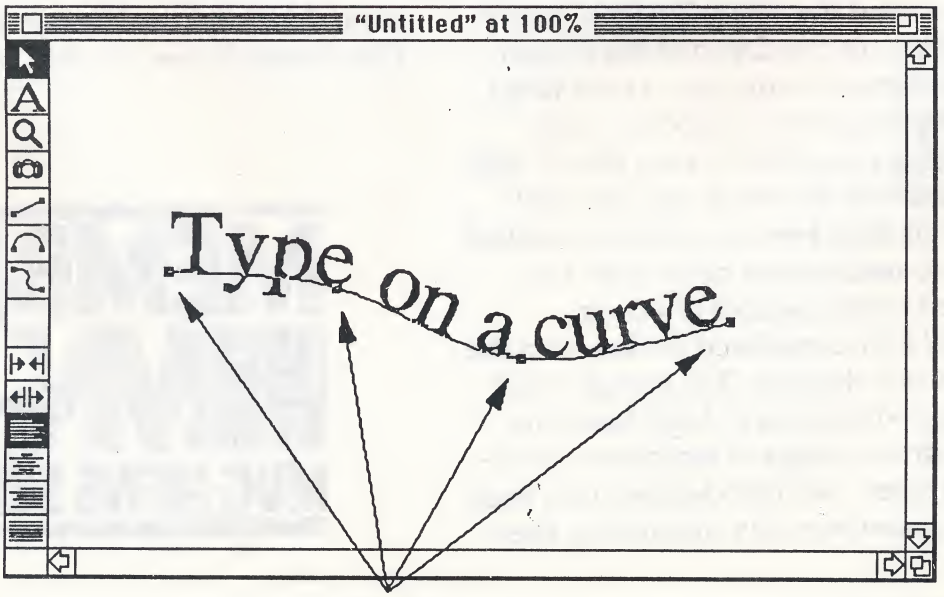
You've already got a pretty good idea what TypeAlign does just by glancing at the illustrations in this article. What's amazing is how easy it is.

TypeAlign consists of a StartUp document (INIT) and a desk accessory. It's simple to install—just drop the INIT in your System Folder and install the DA as you normally would. You can use the Font/DA mover or a utility like Suitcase. Then reboot. You're ready for TypeAlign.

The desk accessory looks like a standard graphics program: resizeable window, tools down the side, etc. To create a typographic effect, first pick the type of line you want the text to follow: straight, circular, or curved. Then use that tool to draw the line desired. As soon as you finish drawing the line, you can begin typing. Voilá. The text follows the line.

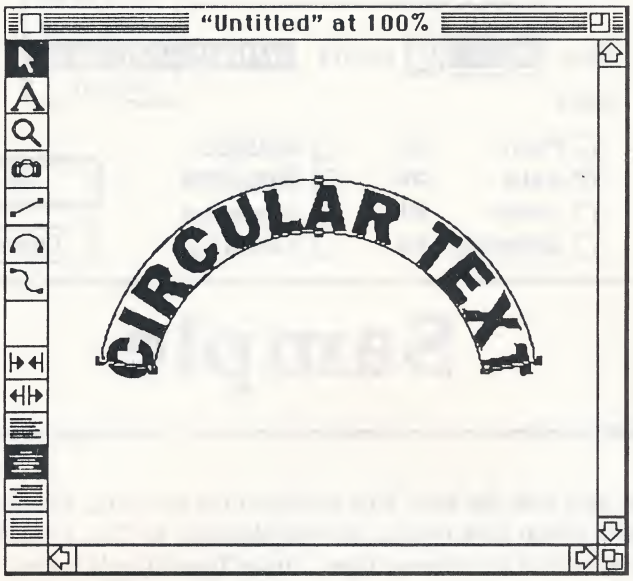


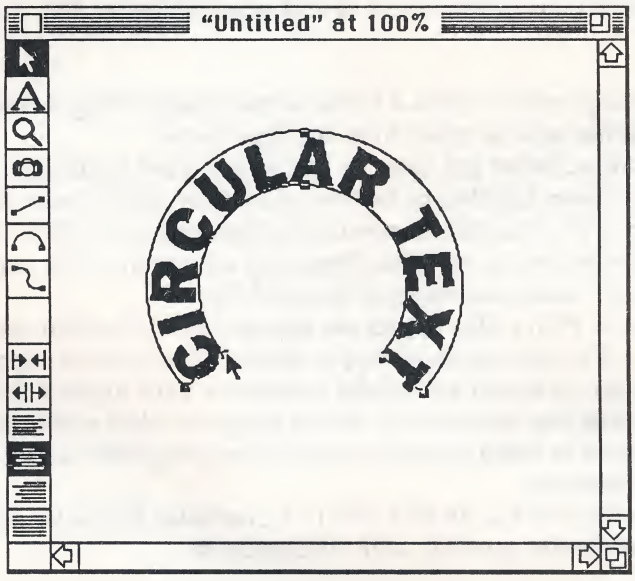
When you finish typing, the text will show "handles." In the case of straight line or circular effects, there will be several handles that define an "envelope" for the shape of the text. Curved text does not have this envelope, but there will be handles along the curved baseline. The pointer tool (arrow) can be used to drag the handles around. The shape of the text will change to correspond to the new positions of the handles.



Continued next page

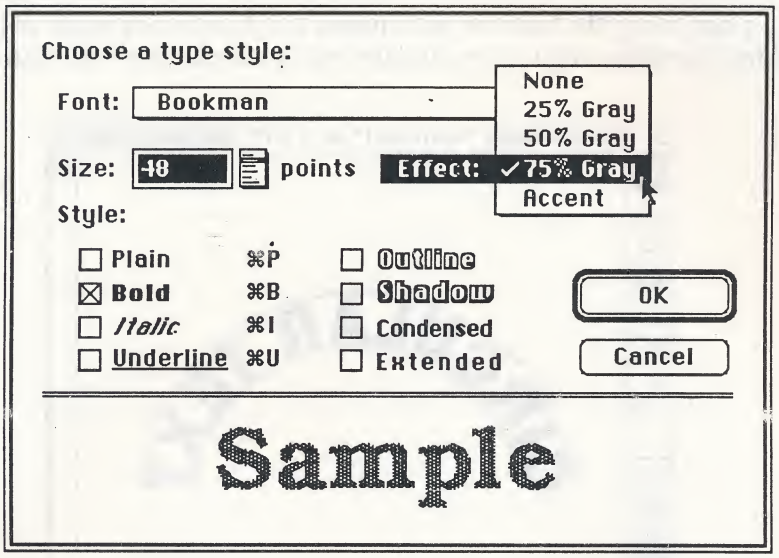
Generally, dragging a point along the baseline will change the direction or angle of the text, while dragging one of the handles along the upper edge of the straight line or circular tool will distort the text.





These illustrations show a few of the ways that dragging handles affects circular text.

Continued next page



You can go back at any time and edit the text. This works in the standard Macintosh manner; use the text tool to drag through the text. When first typed, the text defaults to Times 48. If you want to change this, select the text and press Command-T (or choose **Type...** from TypeAlign's menu). A dialog box will appear which contains a sample of the current font and a number of pop-up menus (for font, size, and effect) and check boxes for style. The effect box gives choices of 25% gray, 50% gray, 75% gray, Accent, and None.

Styles and effects can be freely mixed within a block of text; simply drag through the text with the text tool to select it, and then choose the style or effect from the Type menu.

Kerning is easy with TypeAlign. Select the letter or letters you want to change, then click one of the controls to either move those letters closer together or further apart. Each click moves the letter(s) in increments of one pixel. This translates to 1/72 of an inch at actual size. Zooming in to 200% view causes the kerning tools to work in 1/144 inch increments, and so on. Since TypeAlign can zoom all the way to 1600%, your kerning can be as fine as 1/1000 of an "em" space, according to Emerald City.

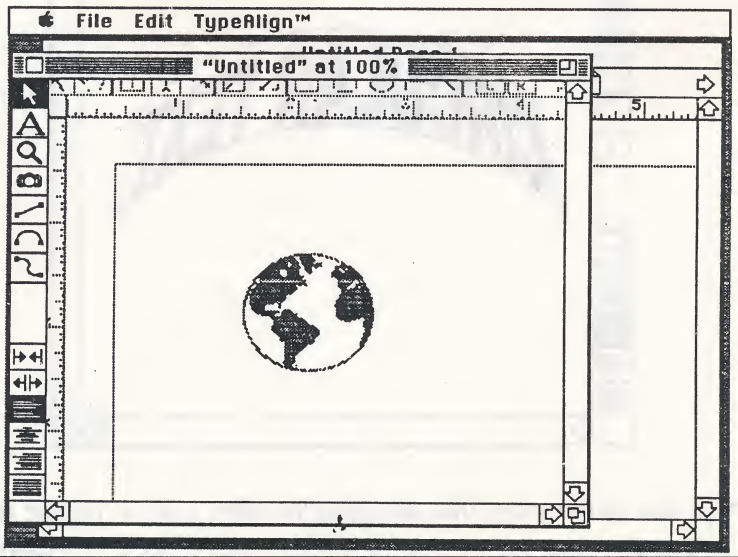
TypeAlign also supports color. With a Mac II, you can choose from 16 million colors. With a Plus, SE or Portable, you are limited to the eight standard Apple colors. Color models supported include RGB, HSB, and CMYK models. Colors can be mixed with slider controls or with Apple's Color Picker.

When you have your effect just like you want it, choose Copy and then switch to your application and Paste it in. Note that the effects work in word processors (and other programs) which do not normally allow for typographic effects or EPS imports.

If you prefer, you can save the effect as an EPS, PICT or Illustrator 88 file for later use. Note that TypeAlign gives effects that are not otherwise possible with Illustrator 88.

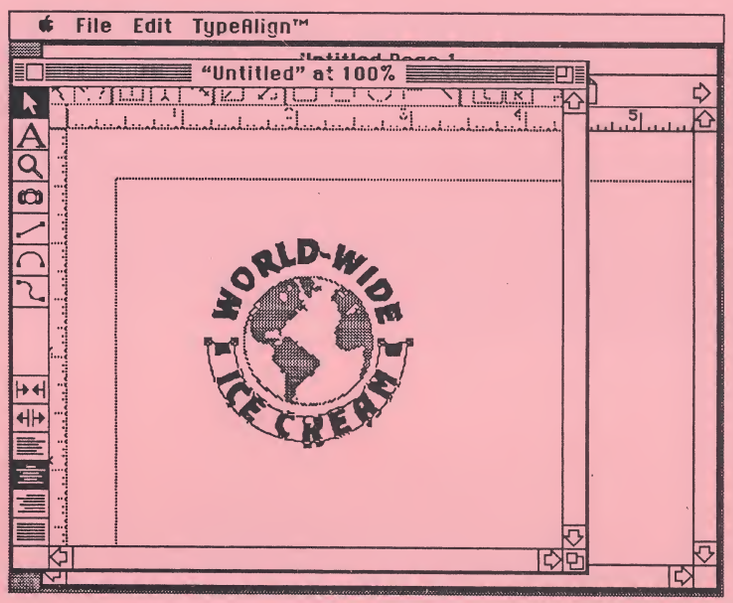
BackGround Templates

One of the more revolutionary features of this already revolutionary program is its ability to precisely fit effects to previously existing artwork. Say you have a pre-existing piece of artwork that you want to add type to. Place the TypeAlign window on top of the artwork, then press the Snapshot (camera) tool. TypeAlign's window turns transparent, allowing you to arrange the two windows for comfortable working sizes.



Continued next page

Then click on the camera again. The area showing through the window becomes a dimmed background template. This template can be used to create and precisely place text paths, allowing for extremely accurate alignment and sizing of TypeAlign's effects. Clicking on the camera again will turn the background template off.



Limitations

As stated earlier, you must have Adobe Type Manager installed for TypeAlign to work. It has been tested with most programs and found to be compatible. The list includes all of the major word processors, the top three page layout programs, numerous database and presentation programs, and most drawing programs, including MacDraw II, Illustrator 88 and FreeHand. The manual states that it does not work with Canvas, SuperPaint and Cricket Draw.

Wish List

I occasionally wished for some kind of grid snap, particularly when constructing symmetrical effects. Like most programs, TypeAlign allows you to choose style combinations which will not print—Helvetica Black Bold, for instance. The Type dialogue box was certainly adequate, but I've become so enamored of Smart Art's font dialog box that I wondered why Emerald City would have retreated to a more conventional solution. There is no Select All command. TypeAlign occasionally had trouble refreshing the screen on a second monitor, but this was always a temporary problem.
These are all minor quibblings; TypeAlign is a solid performer, capable of yielding striking type effects with a minimum of effort and time. Another winner from Emerald City Software!

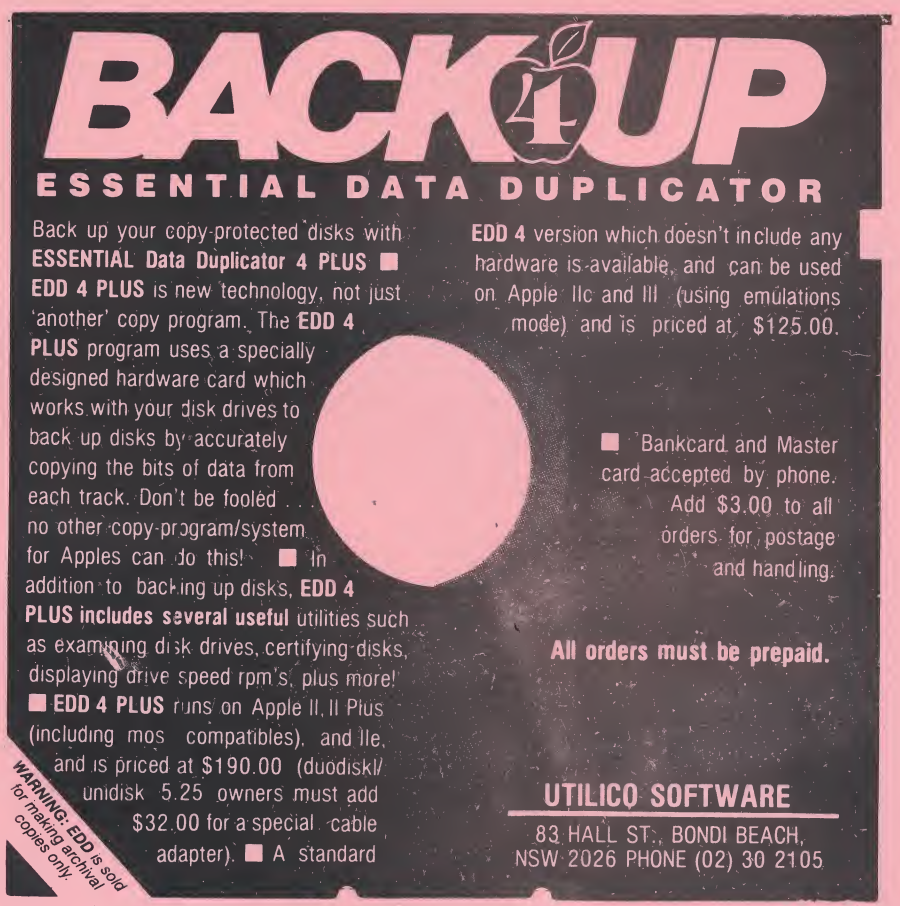
Requirements:
Mac Plus (or later) with at least 1 Mbyte of memory, a hard disk or two 800K floppy drives, System 6.02 or above, and Adobe Type Manager.
Printer Support:
ImageWriter, ImageWriter II, LQ, LaserWriter, LaserWriter Plus, IISC, IINT, IINTX, Hewlet Packard DeskWriter, PaintJet, and Adobe PostScript printers.
$99.95 (NCP)
from Emerald City Software
800-223-0417

MUG NEWS SERVICE, 1990

reviewed by Jim Alley
Professor of Computer Art
The Savannah College of Art and Design

MAGAZINE SALE

The South Australian APPLE Users Club will hold a magazine sale at its next meeting.
Here is your chance to buy Magazines with tips, type-in Programs and much more.
If you are a beginner, here is your chance to gain a lot of knowledge for a small price.
For those of you who are magazine collectors there are some real bargains, like SOFTTALK, one of the first APPLE II magazines with articles and tips written by now famous names in the Apple computer, programming and publishing world.
From information received, collectors in America are paying good prices for this magazine.
Other magazines available are A+, CALL A.P.P.L.E., NIBBLE, APPLE-USER, and some others.
The price per magazine will be 20 cents.
Buy us out and you have some very good APPLE computer reading matter and are supporting your club, which in turn supports you and any new members.


BACK 4 UP
ESSENTIAL DATA DUPLICATOR
Back up your copy-protected disks with ESSENTIAL Data Duplicator 4 PLUS ■ EDD 4 PLUS is new technology, not just 'another' copy program. The EDD 4 PLUS program uses a specially designed hardware card which works with your disk drives to back up disks by accurately copying the bits of data from each track. Don't be fooled . . . no other copy-program/system for Apples can do this! ■ In addition to backing up disks, EDD 4 PLUS includes several useful utilities such as examining disk drives, certifying disks, displaying drive speed rpm's, plus more! ■ EDD 4 PLUS runs on Apple II, II Plus (including mos compatibles), and IIe, and is priced at $190.00 (duodiskl/ unidisk 5.25 owners must add $32.00 for a special cable adapter). ■ A standard EDD 4 version which doesn't include any hardware is available, and can be used on Apple IIc and III (using emulations mode) and is priced at $125.00.
■ Bankcard and Master card accepted by phone. Add $3.00 to all orders for postage and handling.
All orders must be prepaid.
WARNING: EDD is sold for making archival copies only.
UTILICO SOFTWARE
83 HALL ST., BONDI BEACH, NSW 2026 PHONE (02) 30 2105